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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,031	05/31/2005	Joel P Dunsmore	10030978-3	1134

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EXAMINER
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MERANT, GUERRIER

ART UNIT	PAPER NUMBER
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2138

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/01/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/537,031

Applicant(s)

DUNSMORE ET AL.

Examiner

Guerrier Merant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05/31/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/31/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 20050531.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

This is the initial office action based on the application filed on May 31, 2005. Claims 1-32 are currently pending and have been considered below.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-32 are rejected under 35 U.S.C. 102(e) as being anticipated by **Dunsmore** (**US 6,643,597 B1**).

Claims 1, 4-5, 26-28: **Dunsmore** discloses a method of transforming/matching measurements of a device under test (DUT) produced by a test system, the method comprising: determining a port-specific difference array, the difference array describing a difference between a first test fixture and a second test fixture at a corresponding test port of the test fixtures (*col. 14, lines 61-67 & col. 15, lines 1-13*); measuring a performance of the DUT using the test system, wherein the DUT is mounted in the second test fixture; and applying the port-specific difference array, such that the measured DUT performance approximates a hypothetical DUT performance for the

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DUT mounted in the first test fixture and measured with the test system (*col. 7, lines 55-67 & col. 8, lines 22-40*).

Claims 2-3, 11, 13: **Dunsmore** discloses a method of transforming measurements as in claim 1 above, wherein the determined port-specific difference array is an error adaptor that is applied to the measured performance of the DUT to essentially remove an effect of a port portion of the second test fixture and to add an effect of a corresponding port portion of the first test fixture on the measured performance (*col. 14, lines 61-67 & col. 15, lines 1-13 & col. 18, lines 55-67 & col. 19, lines 1-10*)

Claim 6: **Dunsmore** discloses a method of transforming measurements as in claim 1 above, wherein a performance of one or both of the first test fixture and the second test fixture and a performance of one or more calibration standards of the set used in determining the port-specific difference array are unknown or poorly known (*col. 6, lines 48-57*).

Claim 7: **Dunsmore** discloses a method of transforming measurements as in claim 1 above, wherein determining employs measurements of the test fixtures at a plurality of frequencies in a frequency range of interest for the DUT (*col. 7, lines 33-51*).

Claim 8: **Dunsmore** discloses a method of transforming measurements as in claim 3 above, wherein the calibration standards of the set connect corresponding pairs of ports

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to one another for each test fixture, such that all combinations of ports in each test fixture are separately connected as pairs for measuring the characteristics (*col. 12, lines 5-21*).

Claims 9, 27: Dunsmore discloses a method of transforming/matching measurements as in claims 3 and 27 above, wherein measuring comprises: measuring a reflection parameter of each standard of the set of calibration standards separately for each port of the first test fixture; and measuring a reflection parameter of each standard of the set of calibration standards separately for each corresponding port of the second test fixture, wherein one or more of the standards of the set isolate the respective port from other ports of the respective test fixture (*col. 12, lines 21-39*).

Claim 12: Dunsmore discloses a method of transforming measurements as in claim 3 above, wherein solving for elements comprises: optimizing a model using the measured results for each test fixture, the model representing one or more of the port-specific difference arrays, wherein optimizing comprises adjusting parameters of the model until a difference between test fixture measurements is minimized, the test fixture measurements being converted measurements of the second test fixture produced by the model using the measured results for the second test fixture and the measured results for the first test fixture, the model parameters representing the elements of the difference array (*col. 8, lines 1-35*).

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Claims 14, 29-31: **Dunsmore** discloses a method of transforming/matching measurements as in claims 3 and 26 above, wherein solving for elements of the difference array comprises determining a complex square root of one of the elements, wherein the square root is determined using data representing the element at more than one frequency (*col. 13, lines 51-62*).

Claims 15 and 32: **Dunsmore** discloses a method of calibrating a test system for more than one test fixture, the method comprising: measuring parameters of a first test fixture having a calibration standard mounted in the first test fixture, measuring being performed using the test system connected to the first test fixture (*item 430A, fig. 5*); measuring parameters of a second test fixture having the calibration standard similarly mounted in the second test fixture, measuring being performed using the test system connected to the second test fixture (*item 430 B, fig. 5*); and adjusting a calibration of the test system using differences between the measured parameters for corresponding ports of each test fixture, wherein the adjusted calibration is a port-specific calibration of the test system such that measurements taken with the test system for a device under test (DUT) in either test fixture approximate each other (*col. 18, lines 55-67 & col. 19, lines 1-31*).

Claim 16: **Dunsmore** discloses a method of calibrating of claim 15 above, wherein measuring parameters of the first test fixture and the second test fixture comprises: mounting a calibration standard to connect between a corresponding pair of ports of

each test fixture (*see item 420, fig. 5, col. 18, lines 21-32*); and measuring parameters for each corresponding pair of ports of the test fixtures using a set of calibration standards, a different standard connecting a different corresponding pair of ports for each measurement, wherein at least one of the calibration standards of the set is a thru standard (*col. 18, lines 55-65*).

Claims 17-19: **Dunsmore** discloses a method of calibrating of claim 15 above, wherein adjusting comprises: determining a port-specific difference array for each port of the second test fixture from results of measuring parameters, the port-specific difference array representing an error adaptor that transforms the measurements of the DUT in the second test fixture into measurements of the DUT as if measured with the first test fixture (*col. 14, lines 61-67 & col. 15, lines 1-13*)

Claim 20: **Dunsmore** discloses a method of calibrating of claim 15 above, wherein measuring parameters comprises measuring at a plurality of frequency points in a frequency range of interest for the DUT (*col. 7, lines 33-51*).

Claims 21-22: **Dunsmore** discloses a test system that measures a device under test (DUT) using different test fixtures comprising: test equipment (*item 410, fig. 5*); a test fixture that interfaces the DUT to the test equipment (*item 430, fig. 5*); a computer connected to receive and process data from the test equipment (*item 440, fig. 5*); and a computer program (*item 530, fig. 6*) executed by the computer, the computer program

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comprising instructions that, when executed by the computer, implement determining a port-specific difference array that adjusts for a difference between a first test fixture and a second test fixture when each is used to interface the DUT for measurements (*col. 19 lines 16-47*).

Claim 23-24: **Dunsmore** discloses a test system as in claim 22 above, wherein the instructions that implement applying comprise applying the difference array directly to the measured performance of the DUT produced by the test system to transform the measured DUT performance into the hypothetical DUT performance (*col. 7, lines 55-67 & col. 8, lines 22-40*).

Claim 25: **Dunsmore** discloses a test system as in claim 21 above, wherein the computer program further comprises instructions that implement determining a complex square root of an element of the difference array using values of the element at a plurality of frequencies (*col. 13, lines 51-62*).


### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. Merant Guerrier whose telephone number is (571) 270-1066. The examiner can normally be reached Monday through Thursday from 10:30 a.m. to 3:30 p.m.




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady, can be reached on (571) 272-3819. Draft or Informal faxes, which will not be entered in the application, may be submitted directly to the examiner at (571) 270-2066.



Merant Guerrier  
02/21/07



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